

Determining Change in Students' Writing Apprehension Scores in a Writing Intensive Course: A Pre-Test, Post-Test Design

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Abstract

Writing skills are one of the most important skills college graduates need to possess; however, college graduates struggle to complete written communications proficiently in the workforce. Previous researchers have explained that college instructors must understand the students' fears with writing in order to create effective writing curriculum. Writing apprehension has been described as one of the main factors hindering students' motivation to write and confidence to complete writing responsibilities. In the college setting, negative views toward writing cause low motivation to enroll in writing courses or take the course seriously; ultimately, writing apprehension causes students to not make writing a priority. Using the theoretical framework of self-efficacy, this paper sought to explore how a writing intensive course changed a student's confidence or belief in their writing skills, and in turn, how the intensive writing course improved their writing apprehension. A two-phase, convergent parallel design mixed methods study was used to determine what change, if any, occurred during the writing intensive course. The findings showed writing apprehension, or avoidance-like attitudes, may be diminished in undergraduate students throughout the duration of a writing intensive course. Recommendations for practitioners and future research are also provided.

Keywords: Writing apprehension; writing intensive courses; post-secondary students; agricultural communications; written communication

Introduction

Writing skills are one of the most important skills college graduates need to possess (Ahrens, Meyers, Irlbeck, Burris, & Roach, 2016; Anderson, 2014; Lea & Street, 1998); however, graduates struggle to complete written communications proficiently in the workforce (Belkin, 2015; Leef, 2013). Depending on the chosen field, college graduates will spend at least 20% of their time writing various pieces of communication (e.g., emails, reports, resumes, and letters) (Anderson, 2014). In addition to the amount of time graduates will spend writing, employers tend to look for candidates who have more developed writing skills and are more likely to hire, retain, or promote those who have higher writing skills (Anderson, 2014; Faigley, Daly, & Witte, 1981). Although employers are searching for recent graduates with high writing aptitudes, hiring managers and organizations often complain about the lack of effective written communication skills found in recent graduates (Selingo, 2012). Further, employers have complained about the inability of job candidates to write clearly (Leef, 2013). Leggette and Jarvis (2015) explained that teachers must understand the students' fears with writing in order to create effective writing curriculum.

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Writing apprehension (WA) is one of the main factors hindering students' motivation to write and confidence to complete writing responsibilities (Ahrens et al., 2016; Lea & Street, 1998). WA refers to the student's fear, anxiety and/or avoidance of writing in academic and professional settings (Daly & Miller, 1975). Daly (1978) reported apprehension of writing is a major factor in how an individual views writing situations both academically and professionally. In the college setting, negative views toward writing cause low motivation to enroll in writing courses or take the course seriously. Ultimately, high WA causes students to not make writing a priority and often leads to poor writing skills.

Literature Review and Theoretical Framework

Although some people enjoy writing, others despise the process and are usually uncomfortable, not confident, and even nervous, or apprehensive, of the writing process (Daly, 1978). Daly and Miller (1975) explained WA as the interrelation between attitudes, particularly apprehension about writing, and various other outcomes. In Daly's (1978) study, apprehension was described as a construct concerned "with a person's general tendencies to approach or avoid situations perceived to demand writing accompanied by some amount of evaluation" (p. 10). Daly and Miller (1975) noted apprehension was a major factor affecting students' performance on writing assignments. To measure an individual's WA score, Daly and Miller (1975) developed an instrument with 26 Likert-type questions. Scores may range from 26 to 130 with a mean of 75 ($SD = 15.37$). Daly (1978) explained the meaning of the WA continuum. Individuals who score between 60 and 90 do not experience a significantly unusual level of WA. In fact, the closer an individual scores to the mean of 75, the better he or she feels about writing. To have the best motivation toward writing, individuals should have a moderate (near the mean of 75) WA score.

Although it is necessary for writers and students to have some apprehension in order to take time and care to produce a well-written piece, individuals possessing high WA (scores above 70) tend to write with a lower quality in both tone and mechanics than those possessing low WA (Daly, 1978; Faigley et al., 1981; Smith, 1984). Those individuals with high WA have been found to use writing mechanics poorly. Daly (1978) reported students who were unable to demonstrate correct writing mechanics such as grammar, spelling, and punctuation were unlikely to succeed in using correct mechanics and structure in writing assignments. Additionally, those who fail writing assignments have learned to fear or even to avoid situations where writing is critiqued or evaluated (Daly, 1978). Individuals with very low WA scores (below 40) may find themselves unmotivated to carefully listen or read assignments, to carefully edit writing materials, or to remember criteria for assignments (Daly, 1978).

The theoretical framework of social cognitive theory was used to inform this study. According to Bandura (2012), social cognitive theory explains how "human functioning is a product of the interplay of intrapersonal influences, the behavior individuals engage in, and the environmental forces that infringe upon them" (p. 11). Bandura (1995) noted a major component of the social cognitive theory was self-efficacy. The concept of self-efficacy can be used to explain how "beliefs people hold about their abilities and about the outcome of their efforts powerfully influence the ways in which they will behave" (Pajares & Johnson, 1994, p. 313). Bandura's social cognitive theory, and specifically the component of self-efficacy, attempts to explain how someone's behavior, or motivation toward an action, is shaped by their beliefs in their capabilities (Bandura, 1986; Pajares & Johnson, 1994). This component explained how "beliefs people hold about their abilities and about the outcome of their efforts powerfully influence the ways in which they will behave" (Pajares & Johnson, 1994, p. 313).

A student's level of WA has a direct relationship with the student's perception, or belief, of his or her own writing skills (Daly & Wilson, 1983). Daly and Wilson (1983) identified WA as an indicator of an individual's general self-esteem level when performing a writing task. WA has been found to have a strong relationship with self-efficacy, and self-efficacy has previously been used to describe an individual's beliefs about their capabilities (Pajares & Johnson, 1994). Therefore, the more a student fears or has apprehension toward writing, the more likely the student will not have confidence in his or her capabilities as a writer (Pajares & Johnson, 1994). Although WA has been researched in a variety of education levels, such as elementary, middle, and high school as well as at the post-secondary level, little research has been conducted on writing apprehension in agricultural science students. Additionally, research has not been conducted on how a student may experience change during a required writing intensive course.

In an effort to help increase student writing skills as well as decrease WA, academic curriculum must be structured around communicating the importance of proper written communication (Lea & Street, 1998). Irlbeck and Akers (2009) found agricultural communications students have been entering the workforce with low writing skills, and the authors recommended agricultural communications faculty conduct research to understand what improvements should be made to increase writing skills in students. Creating these writing skills in graduates will address employers' needs for skilled workers.

Purpose and Research Questions

This study addresses research priority three of the American Association of Agricultural Educators' *National Research Agenda* to develop a sufficient scientific and professional workforce (Roberts, Harder, & Brashears, 2016). Improved writing skills are a necessary skill for these individuals to effectively communicate about the agricultural industry; however, many students may struggle to make learning to write well a priority due to apprehension and avoidance. Ahrens et al. (2016) recommended understanding how courses in agricultural communications affect writing apprehension. The purpose of this study was to describe the change in student WA scores before and after a one-semester writing intensive course. The following research questions guided this study:

1. What were the students' WA scores at the beginning and end of the semester and how did they differ?
2. How did the students in each WA level describe their WA scores at the beginning of the semester?
3. How did the students describe the change in their WA scores as a result of the course?

Methods

A two-phase, convergent parallel design mixed methods study was used to determine what change, if any, occurred during the writing intensive course. A researcher may use a convergent parallel mixed methods design to utilize both quantitative and qualitative data "to provide a comprehensive analysis of the research problem" (Creswell, 2013, p. 15). In this research design, both quantitative and qualitative data were collected independently and the data were integrated in the findings for deeper interpretation of the conclusions after all the data were collected (Creswell, 2013; Creswell & Plano Clark, 2011). As seen in Table 1, there were two phases to the study. Each of the two phases included quantitative and qualitative data collection. IRB approval was granted before data collection began.

Table 1

Qualitative and Quantitative Data Collection in the Two-Phase, Convergent Parallel Design

	Phase 1			Phase 2
Quantitative	Writing Apprehension Instrument Pre-Test			Writing Apprehension Instrument Post-Test
Qualitative	Initial Reflection	Writing	Apprehension	Changes in Writing Apprehension Reflection

Quantitative Design

The population for this study was undergraduate students enrolled in ACOM 2302: Scientific Communication in Agriculture and Natural Resources, a required writing course for students in the College of Agricultural Sciences and Natural Resources Texas Tech University. This population was selected because students in previous semesters had expressed fear and avoidance-like attitudes to completing written communications assignments. A convenience sample of 92 students enrolled in the Spring 2015 course was selected for the study.

To complete the convergent parallel design, the 92 students in the course completed the WAT-26 instrument (Daly & Miller, 1975) to determine their WA scores. The WAT-26 instrument was disseminated to students via Qualtrics at the beginning (first week of the semester) and the end (fifteenth week) of the semester. The participants were asked to indicate their level of agreement with 26 Likert-type statements (1 = *strongly disagree* and 5 = *strongly agree*) regarding attitude, avoidance, and feelings about writing (Daly & Miller, 1975). Thirteen of the statements are deemed negative (e.g., I avoid writing.), while 13 of the statements are deemed positive (e.g., I enjoy writing.). The responses were collected and entered into SPSS® Statistics version 22.0 before calculating individual WA scores for both the pre-test and post-test.

To calculate the overall WA score for each student, the scores on negative writing apprehension (NWA) statements for the pre-test were added together for each student. Next, the scores on the positive writing apprehension (PWA) statements for the pre-test were added together for each student. Finally, Daly and Miller's (1975) formula was used to calculate the pre-test WA score: $WA = 78 - NWA + PWA$. This process was repeated to calculate the post-test WA score. Each student received a WA score ranging from 26 to 135 (Daly & Miller, 1975). Reliability was established *a priori* with a Cronbach's α of .92 (Daly & Miller, 1975; Ahrens, 2014). Students receiving a score below 59 were considered to have low WA, scores between 60 and 90 are considered to have moderate WA (the ideal WA score), and scores above 91 are considered to have high WA (Richmond, Wrench, & McCroskey, 2013). After calculation, student WA scores were disseminated to students for both the pre-test and post-test.

Qualitative Design

To complete the qualitative aspect of the mixed-method design, qualitative phenomenological methodology (Creswell, 2012) was used to understand how the students' WA changed throughout the course. In this phenomenological study, the researcher studied the students' experience in the specific context of a Texas Tech University designated writing intensive course

to understand how it impacted the students' level of WA. This population was chosen because prior students expressed avoidance and apprehension to writing and completing tasks in this required course for students in the College of Agricultural Sciences and Natural Resources. To create a useable research document, students in the course were asked to write a short paragraph about their reaction to their initial WA score (pre-test) and how their score related to their attitude toward writing. After the students received their final WA score at the end of the semester, they were asked to describe how their WA and attitude toward writing had changed, or not, during the semester. Because both pre- and post- self-reflections were assigned as a course assignments, the students were given a completion grade if they responded and were required to provide their name. During the course, the reflections were used to help the instructor provide feedback relating to writing and students' beliefs in writing. After a grade was assigned for the course, pseudonyms were used to protect the student's identity and minimize researcher bias because the main researcher was the instructor of the course. These pseudonyms are used in the manuscript to demonstrate that the quotations are from many students.

To demonstrate trustworthiness of this phase of the research, the researcher used data triangulation and established credibility, transferability, and dependability of the qualitative data (Erlandson, Harris, Skipper, & Allen, 1993). Data triangulation involved the use of multiple data sources to improve the credibility of the study (Guion, Diehl, & McDonald, 2011). This research was part of a larger study that used interviews, observations, questionnaires, and reflections, which provided validity checks across the data sources (Patton, 1999). The survey data and self-reflection data were analyzed independently and were the only data sources reported in this manuscript. Credibility was ensured through prolonged engagement with the students and peer debriefing to develop quality reflection questions (Erlandson et al., 1993). Thick descriptions and purposive sampling help demonstrate transferability (Erlandson et al., 1993), which is the degree of how well findings can be transferred to other settings, situations or participants (Lincoln & Guba, 1985). An audit trail and dependability audit were used to establish dependability – the ability for a replicated study to result in the same findings (Erlandson et al., 1993).

The student reflections were analyzed using the constant comparative method via open and axial coding for specific themes (Glaser & Strauss, 1967). The lead researcher (a doctoral student in agricultural communications who was also the course instructor) analyzed the data after final grades were assigned. Throughout the study, the researcher documented a “running account of the process of inquiry” in an audit trail (Erlandson et al., 1993, p. 34). The audit trail was used to detail theme formation, document organization, and researcher notes. An additional researcher approved the questions for self-reflection and confirmed the themes that emerged from the data analysis process (Erlandson et al., 1993).

Demographic data were collected in the post-test survey instrument. A complete description of the demographic breakdown of respondents can be found in Table 2. Eighty-six students completed both the pre-test and post-test. Of those, 56 (65.1%) were female and 55 (63.9%) were majoring in animal science. In regard to classification, 26 (30.2%) were freshmen, 30 (34.9%) were sophomores, 22 (25.6%) were juniors, and 8 (9.3%) were seniors.

Table 2

Demographic of Respondents (n = 86)

Characteristic	<i>n</i>	%
Sex		
Female	56	65.1
Male	30	35.9
Classification		
Freshman	26	30.2
Sophomore	30	34.9
Junior	22	25.6
Senior	8	9.3
College Major		
Agricultural and Applied Economics	15	17.4
Interdisciplinary Agriculture	8	9.3
Animal Science	55	63.9
Crop and Soil Sciences	4	4.7
Horticulture or Turf Grass Science	1	1.2
Other	3	3.5

Findings

RQ1: What were the students' writing apprehension scores at the beginning and end of the semester and how did they differ?

After each student completed his or her initial WA test, each student was assigned a WA score. A score below 59 indicated a low WA score, a score from 60-90 indicated a moderate WA score, and a score above 90 indicated a high WA score. As seen in Table 2, the mean score for student pre-test WA was 77.17 ($SD = 16.81$) with a range of 26 to 126. Similar to the pre-test, after each student completed his or her post-WA test, each student was assigned a WA score. The students' post-test WA scores ranged from 38 to 107 with a mean of 69.13 ($SD = 15.45$). Table 3 displays the number of students in each WA category for the pre-test and post-test.

Table 3

Pre- and Post-Test Writing Apprehension Scores by Category

WA Category	Pre-Test		Post-Test	
	n	%	n	%
Low	12	13.49	21	24.42
Moderate	57	64.04	55	63.95
High	20	22.47	10	11.63
Total	89	100.00	86	100.00

* Note: low writing apprehension, score < 59; moderate writing apprehension, score 60-90; high writing apprehension, score > 91

This research question also sought to compare student's pre- and post- WA scores. A paired-samples *t*-test was conducted to compare the means of the pre- and post- WA tests of the students enrolled in the course. There was a significant difference between the pre-test WA scores and post-test writing scores $t(84) = 4.42, p < .001$ (see Table 4). Additionally, a medium effect size of 0.50 was found (Cohen, 1992).

Table 4

Paired Samples t-Test Comparing Initial and Final WA Scores

Writing Apprehension Test	<i>n</i>	<i>M</i>	<i>SD</i>	<i>Mean Difference</i>	<i>t</i>	<i>SE</i>	<i>df</i>	<i>p</i>	<i>Cohen's d</i>
Initial (Pre-Test)	89	77.17	16.81						
Final (Post-Test)	86	69.13	15.54	9.07	4.42	2.05	83	.000*	.50

Note. * $p < .05$

RQ2: How did the students in each writing apprehension level describe their writing apprehension scores at the beginning of the semester?

As an assignment in the class, students were asked to complete a written reflection discussing their WA score and how their WA score reflected their attitude toward writing. Ninety initial student reflections were completed and submitted. Table 5 provides a summary of the emergent themes. All quotes provided in the narrative are verbatim from the transcript and may contain grammar, spelling, and punctuation errors.

Table 5

Summary of Emergent Themes Identified in Initial Writing Apprehension Score Reflections for Low, Moderate, and High Writing Score Participants

WA Score Category	Emergent Themes
Low	<ol style="list-style-type: none"> 1) No fear toward writing 2) Lack of motivation
Moderate	<ol style="list-style-type: none"> 1) Anxiety depends on certain factors 2) Organizing thoughts on paper is difficult 3) Lack confidence and motivation when writing. 4) Level of enjoyment when writing.
High	<ol style="list-style-type: none"> 1) Writing Apprehension is multi-faceted. 2) Peer review causes anxiety. 3) No interest in writing leads to more apprehension.

Low Writing Apprehension

In the initial self-reflection assignment, nine students indicated they had a low WA score (below 59). The following themes emerged in the reflections concerning students with low WA scores: *no fear toward writing* and *lack of motivation*. Initial WA scores are described in parenthesis next to the student's pseudonym.

No fear toward writing. Students explained their WA score reflected their lack of fear and/or anxiety toward writing. Randal (57) stated, "I am not fearful of writing or evaluation." Amy (49) explained, "This score shows that I have some interest in writing. I personally do not feel any apprehension to writing and enjoy writing about things I am interested in."

Lack of motivation. Students expressed how they lacked motivation to write. CJ (26) explained how his low WA score was due to his lack of motivation to check his work as he has no fear or anxiety toward writing. He reflected:

This is the lowest apprehension bracket, meaning that I have virtually no fears or anxiety of writing. The negative side to this is that I tend to lack motivation to read over my work or double check grammar, spelling, and punctuation.

Cullen (54) explained how he enjoyed writing; however, he tended not to take the time necessary in his work. He wrote:

The description for this score seems to be a good representation of my habits. I love writing (being an introvert) feel that I can better express myself in this silent form. However, I tend to lack motivation. I am a certain type of lazy, as I am not shy of hard work, but when it comes to this kind of extra curricular personal development I regretfully holdback. I am also a huge procrastinator, so when it comes to written assignments, I always wait until the last minute and end up putting forth a sloppy effort.

Moderate Writing Apprehension Score

In the initial reflection, 59 of the students indicated their WA scores were moderate (between 60 and 90). Students in this level of WA were the most comfortable with writing. However, students reflected upon various aspects that made them have some level of apprehension toward writing resulting in the emergent themes: *anxiety depends on certain factors, difficulty of organizing their thoughts on paper, lack of confidence and motivation when writing, and level of enjoyment when writing.*

Anxiety depends on certain factors. While some students explained that they did not fear writing, others stated their writing anxiety was due to fear toward specific assignments, instructors, or peer reviews. Several students in the moderate level did not fear writing. Buddy stated, "My writing apprehension score of 74 reinforces the fact that I have a healthy fear of writing, and it reminds me to pay attention to instruction and detail." Kash (78) noted, "This seems right in my opinion, I am never really too concerned about my writing."

Students indicated liking to write on their own; however, when asked to complete an assignment they became nervous. Brady (69) noted an anxiety toward specific types of writing assignments:

When writing a research article or presentation I feel very comfortable writing, but when it comes to grammar and punctuation, I do not feel as comfortable. Professional papers that are expected to have spot on grammar and punctuation are not as easy for me.

Students indicated peer or instructor review of their assignments made them nervous about writing. Sydney (64) explained, "I think my apprehension comes from thinking about people reading my original ideas and words." Beth (69) wrote, "For the record, I am not a fan of peer review, mostly because they are my peers and they might or not have the same maturity level when it comes to taking classes." Dalton (74) reflected, "I do indeed become nervous when writing for graders I do not know, or haven't even met." However, three students explained how they were not afraid of review. Parker (81) explained, "I do like to hear feedback on my writing because I like to know I am doing [the assignment] the right way."

Organizing thoughts on paper is difficult. Students shared that their WA was due to the difficulty of organizing their thoughts and ideas on paper. Mathew (82) said he agreed with his score and wrote, "I won't say that I have ever been a terrible writer but sometimes if I get too many ideas at once my paper can get very disorganized and unclear." Stephanie (75) stated:

I tested average in writing process which is because I have a little trouble organizing my ideas from mind to paper. I struggle to get started and organizing all of my thoughts together, but once I get started I know I can complete an assignment.

Lack confidence and motivation when writing. Students explained how their WA was due to their lack of confidence in their writing abilities. Cole (60) wrote, "I am more confident in my

speaking ability compared to my ability to write.” Terri (64) reflected, “Some of the things that would make my score higher is my nervousness and lack of confidence when writing for grammatical purposes. My punctuation. I tend to get really wordy or just throw in extra words.” Rhett (78) stated, “I just don’t have the motivation to write unless it’s a topic that interests me.”

Level of enjoyment when writing. Students shared how their moderate WA score was a direct reflection of whether or not they enjoyed writing. Mark (67) discussed his lack of enjoyment toward writing, “I believe accurately portrays my interest in writing. I do not really enjoy writing, but I do not avoid it when it comes up.” Jeremy (70) reflected, “This score indicates that I am not apprehensive toward writing, however, it is not something that I necessarily enjoy.” Kelsey (79) discussed, “I don’t have a very strong interest in writing.” Mackenzie reflected, “I scored a 78, and I believe this is accurate to the way I feel towards writing. Once I get down to it, I kind of enjoy it.” Annalisa (75) commented, “I sometimes enjoy writing and look to it as a sort of outlet to express myself.”

High Writing Apprehension Score

Sixteen of the students reported a high writing score (above 90) in their initial reflection assignments. Three themes emerged from the students who had high WA: *writing apprehension is multi-faceted*, *peer review causes anxiety*, and *no interest in writing leads to more apprehension*.

Writing Apprehension is multi-faceted. Students who initially had a high WA score described multiple facets that attributed to their high score. Casey’s (96) reflection noted multiple factors including being critiqued: “I do not like writing very often, nor do I enjoy my writing to be critiqued by peers. I am not comfortable with my writing therefore, I do not enjoy it.” Cynthia (115) discussed how she was extremely intimidated by writing due to a number of factors:

After taking the test and going through all the questions, I believe that this test shows how intimidated I am by writing. I get nervous when it comes to writing and I fear going into a class that is mostly about writing or if it may have writing at all. When I write a paper for a class, I refuse to let anyone peer review it because I get nervous of what they might think. I never look forward to writing, and when I have to write, I feel that I will end up doing a terrible job.

Peer review causes anxiety. In this theme, the students shared how writing anxiety affected them. Shelby (91) said, “My WA score accurately depicts my feelings toward writing. I scored a 91, meaning that I do experience a type of anxiety or stress in the environment.” Brittani (100) explained her anxiety toward writing was so high it has caused her to not choose a career in writing:

My score shows that I have a high anxiety with my writing and I will most likely not choose a career in writing which is true about me. I do not like to share my writings with others in fear of them judging my grammar and spelling.

Cody also wrote peer review and critique caused him to have anxiety when he explained, “I do not like to have my writing critiqued by others which unfortunately, I think is very true because I never really learned correct GSP [grammar, spelling, and punctuation] in grade school.”

Not interested in writing leads to more apprehension. Students discussed how a high WA was due to a lack of interest and enjoyment. Some students explained how their lack of enjoyment was because they thought they were not good at writing. Kyle (94) said, “My writing apprehension score reflects the fact that I don’t take much pleasure in writing.” Blane (105) commented, “I scored a 105, and that means that I do not enjoy writing at all.” Chance (108) continued the theme of lack

of enjoyment: "My WA score reflects my interest writing. I scored 108. This score shows that I don't care much for writing and I have never been good at it."

RQ3: How did the students describe the change in their writing apprehension scores as a result of the course?

At the end of the semester, the students completed a WA post-test and received their scores. Seventy-nine students completed a reflection to describe how their WA changed throughout the course. As Table 6 displays, the following themes emerged: *became more confident in writing*, *score did not reflect feelings toward writing*, and *no change in score*.

Table 6

Summary of Emergent Themes Identified in Final Writing Apprehension Score Reflections

Emergent Themes
Became more confident in writing
Score did not reflect feelings toward writing
No change in score

Became more confident in writing

Sixty students said that they experienced a change in confidence in their writing, causing their score to change from the beginning to the end of the semester. Emily's score decreased 18 points and she said, "I feel more comfortable writing now, and I am willing to do more writing. I am also comfortable with people reviewing my writing." Corbin's score decreased from 97 to 64. He wrote: "My confidence in writing increased and my fear of being evaluated decreased. I now feel confident in my writing know that I will be able to write professionally for my future careers."

This increased confidence was also expressed as less fear or worry toward writing. Cynthia, who had a WA change from 115 to 61, explained her change in fear regarding peer reviews: "I used to be afraid to turn in work especially having it peer reviewed. Now, I am not as afraid, and I do not get anxious about having others see my work."

Layne noted her lack of fear of writing and having her work read by others resulted in a decrease in score from 92 to 48. She explained:

At the beginning of the semester, I did not like writing at all, mainly because I hated having people judge my writing. I was very nervous for this course, but wanted to become a better writer and do well in this class. My writing apprehension changed throughout the course by me become more confident in writing papers. I still am not in love with the idea of writing papers, but at least I won't be scared to do it in the future. I went from being terrified to being confident, and I'm so glad.

Other students expressed that their WA changed because they became more aware of the writing skills and mechanics. London, whose score changed from a 74 to a 54, noted, "I found that

I am much more skilled in the business and scientific type writing involved in this course than typical essay writing. I was able to improve my ability to concisely write information.” Cody, 95 to 65, shared, “As the course progressed, my writing apprehension did go down. I think this was due to actually learning all the proper GSP rules and being able to more confidently apply those.”

Score did not reflect feelings toward writing

Seven students commented that their final WA score was not representative of their feelings toward writing. The students explained how although the actual score showed they either increased or decreased, their scores were not necessarily representative of their feelings. Tate's score increased from 74 to 97, and he said:

My score indicates that my WA increased throughout the semester. However, this is not accurate. Due to the examples in the course pack and the feedback on my writing, I became more confident as the semester progressed. I believe my writing began to flow better and contained fewer GSP [grammar, spelling, and punctuation] errors than it did at the beginning.

Savannah's score changed from a 63 to a 62. She noted: “My score is about the same since the beginning of the semester, but I do feel more confident. I don't think my score reflects my attitude toward writing.” Garrett said his score change from 59 to 95 contradicted his feelings: “The survey says my WA got worse, but I don't feel like it did. I feel more confident in writing. I became much more detailed oriented and writing has become easier for me.”

Mariella's score rose from a 69 to a 92; however, she said the score was not an accurate representation of her feelings toward writing:

I think it [WA] became higher because I became more aware of how I would have to use writing in this field. Before I assumed, I wouldn't have to. Now, I can see that I will have to use writing at some point and it just makes me a little more nervous from where it was before taking this course. I don't think it is a bad thing that my score went up, it just shows me that I care more.

No change in score

Nine students explained how their WA did not change throughout the semester. Tanner noted, “I do not feel that it has changed much (69 initial, 62 final).” Harlee wrote: “I remember back that I did not mind people critiquing my work, but I didn't like actually writing. This didn't change much from my current WA. My WA score barely changed because my views on writing barely changed.”

Conclusions and Discussion

Higher education needs to prepare students to be able to proficiently write in the workforce (Belkin, 2015; Leef, 2014). While instructors in college classrooms might stress the importance of writing in a student's future career, students may show a lack of motivation or confidence to write as they fear and avoid the task (Lea & Street, 1998). Previous researchers indicated WA was a major factor when determining how an individual views writing situations both academically and professionally (Daly, 1978). The findings from this study showed WA, or avoidance-like attitudes, may be diminished in undergraduate students at Texas Tech University throughout the duration of a writing intensive course in agricultural communications.

The theory of self-efficacy can be used to explain the differences between the students' initial and final WA scores. Statistically, there was a significant difference between the initial and final WA tests $t(84) = 4.42, p < .00$. In addition to this change, there was a narrowing of the range of student scores. The student scores became closer to the mean or ideal WA score — initial, 26 to 126, and final, 38 to 107. The students' self-reflections provided additional insight into how their WA scores changed throughout the semester. Similar to Pajares and Johnson's (1994) study, the emergent themes found in this study suggest students' WA had a strong relationship with self-efficacy.

An analysis of the students' beginning of the semester WA reflections revealed multiple themes for each category of WA: low, moderate, and high. Students with low WA indicated they had no fear toward writing and a lack of motivation. Similar to Daly's (1978) study, these students explained how their low WA tended to make them procrastinate turning in assignments or editing their assignments. While these students were generally more confident with writing, their high confidence caused a lack of attention to detail and resulted in poor marks on their assignments. In the moderate WA score category, analysis of the data revealed four emergent themes: *anxiety depends on certain factors, organizing thoughts on paper is difficult, lack confidence and motivation when writing, and level of enjoyment when writing*. These students were consistent with Daly's (1978) explanation of attitudes within the moderate apprehension level because the student reflections indicated they were the most comfortable with writing; however, certain factors do exist that make them nervous about the writing process. In the moderate WA category, the students typically only feared one factor of writing; however, students with high WA discussed how multiple factors played a role in apprehension. The analysis of data indicated the emergence of three themes: *writing is multi-faceted, peer review causes anxiety, and no interest in writing leads to more apprehension*. The students indicated these themes influenced their high WA at the beginning of the semester. These emergent themes were similar to what other researchers have identified as factors describing high WA (Daly, 1978; Daly & Miller, 1975; Faigley et al., 1981; Smith, 1984; Ahrens, 2014).

As discovered in research question three, completing a writing intensive course helped build students' confidence with writing. Previous researchers have compared WA to the idea of self-efficacy (Daly, 1978; Daly & Miller, 1975; Pajares & Johnson, 1994) or the "beliefs people hold about their abilities and about the outcome of their efforts powerfully influence the ways in which they will behave" (Pajares & Johnson, 1994, p. 313). Similar to of previous research, the findings from this study indicated the majority of students became more confident or comfortable with their writing, or rather, their level of self-efficacy toward writing improved. Because the WA construct dealt with the student's fear or avoidance of writing (Daly & Miller, 1977), the more comfortable the student becomes, such as through a writing course, the more likely the student will be to write in the future. This study demonstrated students' enrollment in a writing intensive course could help them become more confident and willing to write in their future careers. The student reflections indicated certain activities helped to improve writing apprehension such as peer review and editing exercises, practice with writing, self reflection, learning how to organize information and thoughts, and lessons on correct grammar, spelling, and punctuation.

Implications and Recommendations

Although knowledge of mechanics and skills are necessary, students may not use the skills if they fear or avoid writing particularly in writing intensive courses or required writing courses (Lea & Street, 1998). Because writing skills are the most important skills college graduates need to possess (Anderson, 2014; Lea & Street 1998), agricultural communications and education

instructors should find innovative teaching methods to make students comfortable with writing, including challenging students to overcome their apprehension of writing.

Leggette and Jarvis (2015) discussed the need for instructors and faculty to conduct research on student fears, anxiety, and avoidance toward writing. Understanding what fears or apprehension students may have toward writing will help instructors guide curriculum development. Multiple students expressed struggling to organize their thoughts and ideas when starting a writing assignment. By understanding that the organization of thoughts on paper was difficult for students, instructors should work with them to complete outlines for their writing assignments. Further, a fear of constructive criticism through peer review was apparent from many students in the course. Instructors may use this information to design peer-review sessions to help students better their work instead of viewing the process as others judging their work.

In addition to incorporating specific activities such as peer review and the outlining of material, faculty and instructors must give students the opportunity to practice, and perfect, their writing skills. During this writing intensive course, students completed multiple assignments throughout the semester and received constructive criticism through feedback on their assignments in addition to lecture material on how to correctly use grammar, spelling, and punctuation. This combination of lecture and practice through multiple assignments provided students with the ability to practice and refine their skills. At the end of the semester, students expressed how these techniques allowed them to learn and practice these skills, making them more comfortable with the writing process.

Additional research should be completed to determine what classroom activities and instructional techniques help improve students' confidence toward writing. In particular, evaluate the use of multiple assignments, self-reflection activities, and peer review activities and their relationship to writing apprehension. Another study could also explore how WA impacts student performance on specific assignments (e.g., the first assignment or the semester, the longest assignment) and course grade. Previous literature has indicated students need to be proficient writers in the workforce; however, limited research has been conducted in the realm of agricultural education to determine what students should learn how to write. A future study should explore what types of assignments are most relevant to meet employers' writing expectations.

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